

Table A. Management requirements to reduce or prevent adverse effects by Tamarack Chimney Fire Salvage Project.

Potential Affected Resource(s)	Management Requirements Designed to Reduce or Prevent Adverse Effects	Responsible Person(s)
Heritage Resources	Heritage Resources will be designated on the ground prior to implementation of all project activities. Protect Heritage Resources that have been identified on the ground with flagging as well as those identified on maps provided by the District Archaeologist.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Management of Heritage Resources: Protect all Heritage Resources with flagged control areas. Utilize directional felling methods as appropriate to protect heritage resources. Buffer zones may be designated to ensure added protection. Sale Administrator, Contract Inspector, and/or Archaeologist will walk all sites with purchaser, contractor, or force account staff prior to start of project activities.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Management of Linear Heritage Resources: Directionally fell trees parallel to or away from linear Heritage Resources (trails, ditches, roads etc.); existing breaches will be used whenever possible; if necessary, new breaches will be designated by the District Archaeologist; and isolated trees inside of linear Heritage Resource features may be felled on a case-by-case basis and with on-the-ground approval of the District Archaeologist.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Guidelines 2.1(a) for approved Standard Protection Measures established in the 2018 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act. Linear sites (e.g., historic trails, roads, railroad grades, ditches) may be crossed or breached by equipment in areas where their features or characteristics clearly lack historic integrity (i.e., where those portions do not contribute to site eligibility or values). (1) Crossings are not to be made at the points of origin, intersection, or terminus of linear site features. (2) Crossings are to be made perpendicular to linear site features. (3) The number of crossings is to be minimized by project and amongst multiple projects in the same general location. (4) The remainder of the linear site is to be avoided, and traffic is to be clearly routed through designated crossings.	District Archaeologist, layout/Contract Specialist, and Sale Administrator
Heritage Resources	Guidelines 2.1(b) for approved Standard Protection Measures established in the 2018 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act. Accumulation of sufficient snow over archaeological deposits or historic features to prevent surface and subsurface impacts. Undertaking activities may be implemented over snow cover on historic properties under the following conditions: (1) The cover must have at least 12 inches depth of compacted snow or ice throughout the duration of	District Archaeologist, layout/Contract Specialist, and Sale Administrator

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	<p>undertaking activities on sites.</p> <p>(2) All concentrated work areas (e.g., landings, skid trails, turnarounds, and processing equipment sites) shall be located prior to snow accumulation and outside historic property boundaries.</p>	
Heritage Resources	<p>Guidelines 2.1(c) for approved Standard Protection Measures established in the 2018 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Placement of foreign, non-archaeological material (e.g., padding or filter cloth) within transportation corridors (e.g., designated roads or trails, campground loops, boat ramps, etc.) over archaeological deposits or historic features to prevent surface and subsurface impacts caused by vehicles or equipment. Such foreign material may be utilized on historic properties under the following conditions:</p> <p>(1) Engineering will design the foreign material depth to acceptable professional standards;</p> <p>(2) Engineering will design the foreign material use to assure that there will be no surface or subsurface impacts to archaeological deposits or historic features;</p> <p>(3) The foreign material must be easily distinguished from underlying archaeological deposits or historic features;</p> <p>(4) The remainder of the archaeological site or historic feature is to be avoided, and traffic is to be clearly routed across the foreign fill material; and</p> <p>(5) The foreign material must be removable should research or other heritage need require access to the archaeological deposit or historic feature at a later date.</p>	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	<p>Guidelines 2.2(a) for approved Standard Protection Measures established in the 2018 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Felling and removal of hazard, salvage, and other trees within historic properties under the following conditions:</p> <p>(1) Trees may be limbed or topped to prevent soil gouging during felling;</p> <p>(2) Felled trees may be removed using only the following techniques: hand bucking, including use of chain saws, and hand carrying, rubber tired loader, crane/self-loader, helicopter, or other non-disturbing, HPM-approved methods;</p> <p>(3) Equipment operators shall be briefed on the need to reduce ground disturbances (e.g., minimizing turns);</p> <p>(4) No skidding nor tracked equipment shall be allowed within historic property boundaries; and</p> <p>(5) Where monitoring is a condition of approval, its requirements or scheduling procedures should be included in</p>	District Archaeologist, Layout/Contract Specialist, Tribal Monitors, and Sale Administrator

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	the written approval.	
Heritage Resources	<p>Guidelines 2.2(b) for approved Standard Protection Measures established in the 2018 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>For fire, and hazardous fuels and vegetation management projects, HPM/DHPS, in conjunction with fuels, vegetation management, or fire specialists as necessary, shall develop treatment measures for <i>at risk</i> historic properties (as defined in SHPO approved Region 5 modules and agreements) designed to eliminate or reduce potential adverse effects to the extent practicable by utilizing methods that minimize surface disturbance, and/or by planning project activities in previously disturbed areas or areas lacking cultural features.</p> <p>(1) The following standard protection measures apply to fire, hazardous fuels, and vegetation management projects:</p> <p>(I) Mechanically treated (crushed/cut) brush or downed woody material may be removed from historic properties by hand, through the use of off-site equipment, or by rubber-tired equipment approved by HPMs or qualified Heritage Program staff. Ground disturbance shall be minimized to the extent practicable during such removals.</p> <p>(J) Woody material may be chipped within the boundaries of historic properties so long as the staging of chipping equipment on-site does not affect historic properties and staging areas are specifically approved by HPMs or qualified Heritage Program staff.</p> <p>(K) HPMs shall approve the use of tracked equipment to remove brush or woody material from within specifically identified areas of site boundaries under prescribed measures designed to prevent or minimize effects. Vegetative or other protective padding may be used in conjunction with HPM authorization of certain equipment types within site boundaries.</p>	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Logging Camps: Proposed logging camps and other staging areas need to be agreed upon with the District Archaeologist prior to use.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Lands	Protect land survey signs and monuments, even if burned, or laying on the ground.	Layout/Contract Specialist, Sale Administrator, and Public Service Officer
Lands	Notify private property owners within the Tamarack Chimney Salvage project area of initial logging schedule.	Layout/Contract Specialist, Sale Administrator, and Public Service Officer
Minerals	Notify mining claimants within the Tamarack Chimney Salvage project area of impending harvest schedule once it is known.	Minerals Officer and Sale Administrator

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Rare Plants - Conservation	<p>Botany Controlled Areas (CAs) have been established for the protection of rare plants.</p> <ul style="list-style-type: none"> Controlled Areas for Mildred's clarkia: No ground disturbance allowed within these Controlled Areas. In certain situations the project implantation team may consult with the botanist regarding additional small impacts within Controlled Areas. 	Botanist, Project Implementation Teams, Contract Administrators
Rare Plants - Conservation	<p>Botany Controlled Areas will be shown on the project implementation maps, and be flagged on the ground by red-and-black-stripe and blue-and-black-stripe flagging always tied together (or by some other demarcation agreed to by the botanist and recreation team).</p> <ul style="list-style-type: none"> Contact the District Botanist immediately prior to project implementation to ensure that flagging is in place and refreshed as necessary. 	Botanist, Implementation Team, and Contract Administrator
Non-native Invasive Plants (NNIP) - Prevention	Ensure that all plant material and fill material used for erosion control and/or road maintenance is free of NNIP, including straw, mulch, gravel, and rock (<i>certified weed-free</i>).	Botanist, Implementation Team, and Contract Administrator
Non-native Invasive Plants (NNIP) - Prevention	Clean all off-road equipment entering the project area if it may be coming from areas infested with nonnative invasive plants (NNIP).	Botanist, Project Implementation Teams, Contract Administrator
Non-native Invasive Plants (NNIP) - Prevention	<p>To the greatest extent feasible keep all equipment, vehicles, and supplies out of areas of known NNIP infestations, including any NNIP infestations along access routes and new infestations that may be discovered during project implementation. NNIP infestations may sometimes be flagged with bright orange "noxious weed" flagging.</p> <ul style="list-style-type: none"> Any equipment, vehicles, and supplies that do come in contact with NNIP infestations (plants or the ground close to them) during project implementation should be thoroughly cleaned of dirt, mud, and plant debris before entering any un-infested project area. Hand cutting of broom plants and placement of burn piles on top of NNIP infestations is encouraged. <p>New infestations should be mapped and reported to the District Botanist.</p>	Botanist, Fuels Officer, Project Implementation Teams, Contract Administrators
Non-native Invasive Plants (NNIP) - Prevention	<p>Members of the project implementation teams (layout crew, contract administrator, etc.) should watch for and be able to recognize NNIP.</p> <ul style="list-style-type: none"> New infestations should be mapped and reported to the District Botanist, and flagged and avoided. <p>As time allows, pull some or all of NNIP encountered during project activities (avoiding archaeology controlled areas).</p>	Botanist, Project Implementation Teams, Contract Administrators
Non-native Invasive Plants (NNIP) - Prevention	<p>Monitor areas of project related ground disturbance (e.g. skid trails, temp roads, landings, trails, etc.) for NNIP for up to 10 years following project implementation.</p> <ul style="list-style-type: none"> As funding becomes available, new and old infestations of NNIP should be pulled or otherwise treated. 	Botanist and Implementation Team

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	<ul style="list-style-type: none"> New infestations should be mapped and reported to the District Botanist. 	
Recreation and Public Use	Provide for public safety and education by posting signs to inform public of project activities. Whenever possible, post notices on PNF website prior to treatments. Keep information current.	Layout/Contract Specialist, Fuels Specialist, and Recreation Specialist
Recreation and Public Use	If any barriers (including boulders or natural materials) or improvements are damaged or removed during activities, they must be replaced and re-installed in the same location and manner immediately following vegetation management operations.	Layout/Contract Specialist, Fuels Specialist and Recreation Specialist
Recreation and Public Use	Keep open all roads that access private property and the Plumas National Forest except for brief closures for public safety.	Layout/Contract Specialist and Public Service Officer
Silviculture	<p>Protection of specially identified trees. They are usually identified with various types of metal, wood, or plastic tags or signs.</p> <ol style="list-style-type: none"> 1. Location, survey marker, or bearing trees. 2. Proven rust resistant sugar pine trees. 3. Genetically superior tree of any species. 	Contract Specialist
Silviculture	<p>Hand Cutting, Piling, and Burning.</p> <ol style="list-style-type: none"> 1. Leaner's/Hang-ups - No contractor created slash shall be left suspended by, or lean against, a leave tree; whether it is dead or alive. 2. Lopping and Scattering: Slash shall be lopped and scattered away from the bole of residual leave trees so that it lies outside of the drip line. 3. Piling and burning: Piles shall be placed away from residual leave trees to avoid being scorched during burning. Piles cannot be located on or against stumps and logs. 	Contract Specialist
Fire and Fuels	<p>Activity Generated Slash adjacent to FS roads. Pile all activity generated slash 100' depth of project area and covered with waterproof covering for burning during winter months.</p> <p>Piling and Burning Landings: Landings created for optimal winter weather burning. Waterproof covering on multiple locations of pile.</p> <p>Landing Temp Roads: Landings created for burning need to have roads accessible for fire engine access during ignition and monitoring phases.</p> <p>Landing Fire Lines: 6-10-foot fire line created around each landing.</p>	Contract Specialist and Fuels Implementation Team
Road Maintenance and Safety	Protect all improvements along roadways including road surface, signs, ditches, and drainage structures.	Maintenance Engineer, Contract Specialist
Watershed, Soils and Aquatic Resources	Implementation buffers for hydrologic features. See table below.	Contract Administrator and Hydrologist

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Allowable treatment within RCAs by treatment type						
Stream Type	Equipment Exclusion Zone (EEZ) for Salvage, Yarding, and Machine Piling of Slash ¹		Mastication	Underburn ²	Hand Cut ³	Minimum Distance to Burn Piles
	Slope <35%	Slope >35%				
Perennial streams	100 feet	Excluded	50 feet	150 feet	No buffer	25 feet
Intermittent streams	100 feet	Excluded	50 feet	150 feet	No buffer	25 feet
Ephemeral streams	50 feet	Excluded	25 feet	150 feet	No buffer	25 feet
Special Aquatic Features (Reservoirs, wetlands, fens, and springs)	100 feet	Excluded	50 feet	150 feet	Perimeter	25 feet
Riparian Features: dry meadows, seasonal wetlands	0 to 25 ⁴ feet	Excluded	25 feet	150 feet	Perimeter	25 feet
<div>1. Fell trees away from the stream.</div> <div>2. Prescribed burning would be allowed within RCAs, but there would be no ignitions in riparian vegetation. Fire may back through this zone.</div> <div>3. May hand cut within RCA feature but don't cut riparian vegetation. Don't cut vegetation that provides stream bank stabilization. Adhere to the minimum distance for burn piles. No hand cutting within special aquatic features and riparian features unless marked by hydrologist and/or biologist.</div> <div>4. Meadows may have no buffer to a 25 ft. buffer depending on the individual meadow. Buffers may vary due to the condition of the meadow (i.e. meadow is encroached with trees).</div>						
Watershed, Soils, and Aquatic Resources	<div>Mechanical equipment will be permitted within designated Riparian Conservation Areas (RCAs), but would not be allowed to enter the mechanical equipment exclusion zones (EEZs) for the purpose of removing timber.</div> <div>Mechanical equipment will be allowed to reach into the RCA's EEZs with the extendable boom arm without disturbing the ground for the purpose of removing timber.</div> <div>Where mechanical equipment is used to fell timber within RCAs, one-end suspension would be used to remove felled timber where feasible. If one-end suspension is not feasible, endlining would be permitted. Excessive soil displacement (i.e., 'furrowing') caused by endlining would be mitigated or repaired by the operator.</div> <div>Hand felling and removal of material in a manner that will not cause soil disturbance within the mechanical equipment exclusion zones of the RCAs would be permitted.</div> <div>Riparian species (aspen, cottonwood, alder, willow, dogwood, etc.) would generally not be cut or removed unless needed for operations and/or safety.</div> <div>Trees that provide bank stability and/or contribute to channel integrity would not be felled unless they pose a safety risk, in which case they would be felled and left in place.</div> <div>Mechanical equipment would be allowed to enter EEZs for the purpose of crossings streams but would be limited and</div>				Contract Administrator and Hydrologist	

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	designated by a qualified specialist prior to implementation. Following use of these specified crossings, a qualified specialist would assess the site for potential repair and/or rehabilitation as needed for stream stabilization.					
RCA Herbicide Application Buffers						
Herbicide Active Ingredient	Perennial or intermittent streams that have fish always or seasonally present.		Perennial or intermittent streams that have that don't have fish.		Ephemeral streams and meadows	
	Percent Slope					
	<30	30-50*	<30	30-50*	<30	30-50*
Glyphosate	75 ft.	100 ft.	50 ft.	75 ft.	25 ft.	50 ft.
Triclopyr-TEA	100 ft.**	100 ft.	50 ft.	75 ft.	25 ft.	50 ft.
Buffer distances are measured from the water's edge. Roadside ditches will be treated the same as the water body type they resemble. *Where management activities are planned on a burned area with slopes greater than 30%, a minimum of 50% average effective groundcover (see Attachment C for guidance) is required to be documented prior to pesticide application. Documentation shall be provided to the Central Valley Water Board in the pesticide notification 30 days prior to application. **Buffer was increased from 75ft. to 100 ft. for wildlife concerns.						
Watershed and Soils		Herbicide Application Design Features. See below.			Planning Forester and Hydrologist	
Design Feature	Soil and Water Design Standards		Purpose of Design Standard		Source of Design Standard	
DF-1	Areas with bare soil created by the herbicide treatment would be evaluated for rehabilitation (i.e. reseeded, mulching, etc.)		To ensure that reforestation is not creating open and bare areas that may cause sediment to enter a stream which could affect water quality and riparian habitat.		BMP 5.4: Revegetation of Surface-disturbed Areas (R5-FSHB 2509.22)	
DF-2	Areas outside of ephemeral stream: If treatment reduces soil cover to less than 50% for a contiguous are of >0.25 acres, then mulching and/or revegetation may be required to minimize erosion and reestablish native vegetation. Only native plant species will be used in revegetation. All mulch and seed material will be certified weed-free. Areas within 50 feet of ephemeral stream: If treatment reduces soil cover to less than 50% for a contiguous area of >0.1 acres, then mulching and/or revegetation may be required to minimize erosion and reestablish native vegetation. Only native plant species will be used in revegetation. All mulch and seed material will be certified weed-free.		To ensure that reforestation is not creating open and bare areas that may cause sediment to enter a stream which could affect water quality and riparian habitat.		BMP 5.4: Revegetation of Surface-disturbed Areas (R5-FSHB 2509.22)	
DF-3	Herbicide mixing will not occur within 150 feet of the ephemeral stream and inside ditch. The cleaning and disposal of herbicide containers will be done in accordance with Federal, State, and local laws, regulations, and directives.		To reduce risk of contamination of water by accidental spill.		BMP 5.10: Pesticide Soil Contingency Planning (R5-FSHB 2509.22) BMP 5.11: Cleaning and Disposal of Pesticide Containers and Equipment (R5-FSHB 2509.22)	

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				National BMP Chem-5: Chemical Handling and Disposal (FS-990a)
DF-4	When applying herbicides with a backpack sprayer all directed spray will be done in a downward direction in accordance to the herbicide's label. This will minimize herbicide drift and confine the herbicide to the drop zone of the individual weed plant being treated.	To control drift within the entire project area especially within sensitive areas and near water.		BMP 5.12: Streamside Wet area Protection during Pesticide Spraying (R5-FSHB 2509.22) BMP 5-13: Controlling Pesticide Drift During Spray Application (R5-FSHB 2509.22) National BMP Chem-1: Chemical Use Planning (FS-990a)
DF-5	All herbicide application will follow EPA approved label directions in regards to control of drift of herbicides during spraying. These directions have specific wind speeds and air temperatures for application of each herbicide. Applicators will utilize droplet size and spray pressure to insure droplets do not travel outside of the drip line target plant. A colorant would be added to the herbicide mixture prior to spraying. Spray cards may be used to aid in detecting herbicide drift.	To control drift of herbicides onto unintended targets and to minimize risk of surface water contamination.		BMP 5.8: Pesticide Application According to Label Directions and Applicable Legal Requirements (FSHB 2509.22) BMP 5.9: Pesticide Application Monitoring and Evaluation (R5-FSHB 2509.22) BMP 5.13: Controlling Pesticide Drift during Spray Application (R5-FSHB 2509.22) National BMP Chem-2: Chemical Use Planning (FS-990a)
DF-6	POEA surfactants will not be used within 150 feet of live waters.	To protect aquatic organisms.		BMP 5.12: Streamside Wet area Protection during Pesticide Spraying (R5-FSHB 2509.22)
DF-7	Roadside ditches will be treated the same as the water body type they resemble.	To protect water quality and meet SNFPA Riparian Management Objectives. Also to ensure that TECS and Special Interest plants are protected.		BMP 5.12: Streamside Wet area Protection during Pesticide Spraying (R5-FSHB 2509.22)
Watershed and Soils		The Discharger shall notify the Central Valley Water Board in writing at least 30 days prior to any proposed application of pesticides. The notification does not need to include information on hack and squirt or individual stump applications. The written notification shall include the pesticide product(s) to be applied, the proposed date(s) of application, the method(s) of application, the area(s) of application (CAL FIRE Notice number and Township/Range/Section), a description of measures that will be employed to assure compliance with the applicable Basin Plan, and documentation of 50% or greater effective groundcover (as applicable). Subsequent changes to the proposal must be submitted in writing no less than 48 hours prior to pesticide application.		Planning Forester and Hydrologist

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Watershed and Soils	Where management activities are planned on a burned area with slopes greater than 30%, a minimum of 50% average effective groundcover (see Attachment A for guidance) is required to be documented prior to pesticide application. Documentation shall be provided to the Central Valley Water Board in the pesticide notification 30 days prior to application.	Planning Forester and Hydrologist
Watershed, Soils, and Aquatic Resources	Herbicide application would be consistent with the Forest Service Pesticide Use Policy, would follow state and federal regulations, and would follow Region 5 Best Management Practices for Water Quality and Vegetation Manipulation and the Region 5 supplement No. 2100-95-1 to 2150 on Pesticide-Use Management and Coordination. Appropriate monitoring protocols will be used to ensure herbicide was applied according to requirements according to label specifications. Pesticide Use Proposal (PUP) will be signed by FS or delegate and a LO before herbicide application, and PUP will be reviewed yearly to verify there has been no change in: Location of the pesticide application, pesticide(s) to be used, active ingredient(s) (AI) of the pesticide, and/or any relevant policy/direction regarding pesticides or related to the resource analyzed in NEPA	Forest Supervisor or delegate, layout/contract specialist, District Silviculturist
Watershed, Soils, and Aquatic Resources	The Herbicide Transportation, Handling, and Emergency Spill Response Plan and spill kit will be on-site when herbicide treatment methods occur. This plan will include reporting procedures, project safety planning, methods of clean-up of accidental spills, and information including a spill kit contents and location as noted in Forest Service Manual (FSM) 2150, Pesticide-Use Management and Coordination and Handbook (FSH) 2109.14, and Pesticide-Use Management and Coordination Handbook.	Forest Pesticide Use officer or delegate, layout/contract specialist, contract administrator
Watershed, Soils, and Aquatic Resources	Containers and equipment will be disposed of in accordance with regulations to prevent water contamination.	Planning forester, contract administrator
Watershed and Soils	Erosion Hazard Rating (EHR) for the project is low and medium. Therefore, the percent effective soil cover post implementation should be 50 percent or more. If effective soil cover is not met than minimize the amount of slash taken to landings and scattered it in bare areas to increase soil cover. Minimize the amount of slash taken to landings. If slash is not available, then weed free straw can be applied. The spread of weed free straw needs to be at a minimum of ½ inch thick.	Contract Administrator and Hydrologist
Watershed and Soils	To reduce ground disturbance created by equipment within RCAs, vary the routes the equipment uses and minimize turning of equipment. Skid trails within RCAs would require a minimum of 60 percent ground cover between 3-10 in depth following project implementation. Ground cover would consist of slash or organic material (logs, branches chips and duff). Slash would be scattered to resemble a natural appearance	Contract Administrator and Hydrologist

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	<p>similar to the surrounding landscape. Rocks can be included as acceptable ground cover (included in the 60 percent cover).</p> <p>Skidding of trees and other material outside of designated skid trails and temporary roads will not be allowed within RCAs unless a qualified specialist reviews and approves prior to implementation.</p> <p>Skidding of trees and other material outside of designated skid trails and temporary roads will not be allowed within RCAs unless a qualified specialist reviews and approves prior to implementation.</p> <p>No cut and fill would be allowed for new skid trails within RCAs.</p> <p>Skid trails will be perpendicular to the stream course within 50 feet of the stream and spacing of skids will generally be no closer than 100 feet center to center, when trails are parallel.</p>	
Watershed and Soils	If effective soil cover is below the desired level of soil cover along streams, then leave slash material to increase soil cover. When cutting trees lop and scatter broken tops and limbs within 1 tree length of any stream.	Contract Administrator and Hydrologist
Watershed, Soils, and Aquatic Resources	Place rock on roads at stream crossings and segments within identified RCAs to reduce the impact of sediment delivery to associated stream courses. Place rock, slash, or certified NNIP free mulch at the outlets of rolling dips and/or waterbars to dissipate water where identified by road engineer and soil scientist, and/or hydrologist.	Contract Administrator and Hydrologist
Watershed, Soils, and Aquatic Resources	<p>Water Source Use:</p> <p>Where overflow runoff from water trucks or storage tanks may enter the stream, effective erosion control devices shall be installed.</p> <p>As necessary, earthen or log berm, straw waffle, certified hay or rice straw bale berms, or other containment structures would be constructed above the bankfull channel water line at the drafting site to protect the streambank.</p> <p>Back down ramps would be constructed and or maintained to ensure the streambank stability is maintained and sedimentation is minimized. Rocking, chipping, mulching, or other effective methods are highly recommended to achieve this objective.</p> <p>All water-drafting vehicles shall be checked routinely and shall be repaired as necessary to prevent leaks of petroleum products from entering RCAs.</p> <p>Water-drafting vehicles shall contain petroleum spill kits. Dispose of absorbent pads according to the Hazardous Response Plan.</p> <p>Survey all proposed drafting locations for sensitive and listed amphibians and receive approval from a biologist prior to use. Use drafting devices with 2-mm or less</p>	Planning Forester, Prep Forester, Sale Administrator, Aquatic Biologist and Hydrologist

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	<p>screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low levels beyond which they cannot recover quickly (approximately one hour).</p> <p>If a sensitive or listed amphibian is sighted within the project area, cease operations in the sighting area, and inform a Forest Service aquatic biologist of the sighting immediately.</p> <p>Abate dust from logging traffic with water selected from water drafting sites that have suitable stream flow and access. When water is scarce, the use alternative sources such as chlorite, sulfonate or other dust abatement materials are allowed outside of the RCA EEZs.</p>	
Watershed, Soils, and Aquatic Resources	<p>Allow mechanical operations only when soil moisture conditions are such that compaction, gulying, and/or rutting will be minimal. Conduct ground based mechanical operations when soil is dry; that is, in the spring when soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. In the summer and early fall after storm event(s) when soil moisture between 2-8 inches in depth is not sufficient to allow a soil sample to be squeezed and hold its shape or will crumble when the hand is tapped. Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction.</p>	COR (Contracting Officer's Representative), Soil Scientist, and Hydrologist
Watershed and Soils	<p>Install and maintain suitable stormwater and erosion control measures such as hay wattles and/or other material to stabilize disturbed areas and waterways before seasonal shutdown of project operations or when severe or successive storms are expected.</p>	Contract Administrator and Hydrologist
Watershed and Soils	<p>Limit tractor skidding to less than 35 percent slopes unless a watershed specialist evaluates operations on the steeper slopes. Tractor skidding may occur on slopes greater than 35 percent only in short pitches less than 200 feet in distance. Where skidding occurs on slopes greater than 15 percent and effective soil cover off of skid trails is less than 50 percent, scatter slash on skid trails to achieve at least 50 percent effective soil cover.</p> <p>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). Use of weed free straw, wood chips, or mulch may be used where on-site material is insufficient.</p>	Contract Administrator and Hydrologist
Watershed and Soils	<p>Temporary roads: Following temporary road use, remove culverts, eliminate ditches, out-slope roadbed, remove ruts and berms, effectively block the road to normal vehicular traffic where feasible under existing terrain conditions, and build cross ditches and water bars.</p>	Contract Administrator and Hydrologist

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Potential Affected Resource(s)	Management Requirements Designed to Reduce or Prevent Adverse Effects	Responsible Person(s)
	<p>Subsoil all temporary roads and add effective soil cover to bare soil.</p> <p>Add 100 feet of on effective soil cover on both sides of a perennial stream and 75 feet on seasonally flowing streams. Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). Use of weed free straw, wood chips, or mulch may be used where on-site material is insufficient.</p>	
Watershed and Soils	Haul route roads should include general road maintenance which includes cleaning inside ditch, cleaning ditch relieve culverts, blading road surface, and cleaning the inlets and outlets of stream crossings. Remove spoils from site so wont reenter stream.	Contract Administrator and Hydrologist
Watershed and Soils	Log Landings: re-use log landings to the extent feasible. Limit new landings to ¼ to ½ acre in size.	Contract Administrator and Hydrologist
Watershed and Soils	<p>Recommended spacing for cross drainage spacing on skid trail and temporary roads:</p> <p>Slope Gradient Cross Drain Spacing</p> <p>1-6% 250'</p> <p>7-9% 150'</p> <p>10-14% 125'</p> <p>15-20% 60'</p> <p>21-40% 30'</p>	Contract Administrator and Hydrologist
Watershed, Soils, and Aquatic Resources	To reduce the potential for adverse cumulative watershed effects, implement state certified Best Management Practices (BMPs). Site specific BMPs applicable to this project (located in project record file) include BMP 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.19, 1.20, 1.21, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.11, 5.1, 5.2, 5.4, and 5.6.	Planning Forester, Contract Administrator, and Hydrologist
Wildlife	Incidental detections of federally listed and sensitive species prior to or during project implementation will be reported to the District Wildlife Biologist for protection in accordance with management direction for the Plumas National Forest.	Wildlife Biologist, Contract Specialist, and Contractor
Wildlife	Leave additional large snags (> 4/acre) where possible to mitigate effects for bats and woodpeckers.	Wildlife Biologist, Contract Administrator, and Contractor
Wildlife	If species are found prior or during project activities: Follow Standard Provisions C6.24 & C8.2 B6.24 Site Specific Special Protection Measures – Wildlife Protection Measures CT6.313 Limiting Operating Periods & Forest Service manual (FSM) 2670.32 and 2670.22.	Wildlife Biologist, Contract Administrator, and Contractor
Aquatic	Follow RCAs and ROCs as documented by the District Hydrologist above.	Wildlife Biologist, Contract Administrator, and Contractor

Table A. Management requirements to reduce or prevent adverse effects by Tamarack Chimney Fire Salvage Project.

Attachment A: Effective Ground Cover

Excerpted from: Attachment C – Post-Fire Management and Reforestation Plan Order No. R5-2017-0061 Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities on Non-Federal and Federal Lands

“Effective Ground Cover”, [...] means any combination of slash (lopped and in close contact with the ground), mulch (large wood chips, wood shreds, wood strand blends, straw, bark, surface rock fragments larger than $\frac{3}{4}$ inch), plants, and plant litter. Large wood chips are a minimum of 2 inches in length and at least four (4) times longer than they are wide:

Image 1

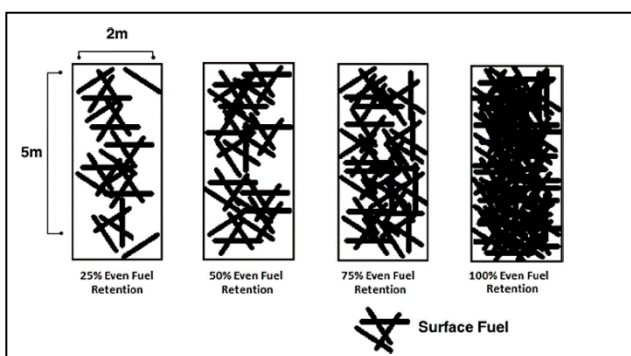


Image 2



Fifty-percent ground cover documentation shall use standard methods including aerial photography analysis, point intercept, plot, or transect methods, or any combination thereof.

The Discharger shall provide documentation of ground cover sampling methodology, locations of any ground-based sampling points, and any ground-based verification points or plots for aerial photo estimates. Image 1 above, borrowed from Harrison et. al 2016, is a schematic that illustrates even distribution of 25, 50, 75, and 100% ground cover. Additionally, Image 2 above, borrowed from the [Natural Resource Conservation Service at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/ecoscience/agronomy/](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/ecoscience/agronomy/), provides a useful image of 50% ground cover.